

PREVIOUSLY...

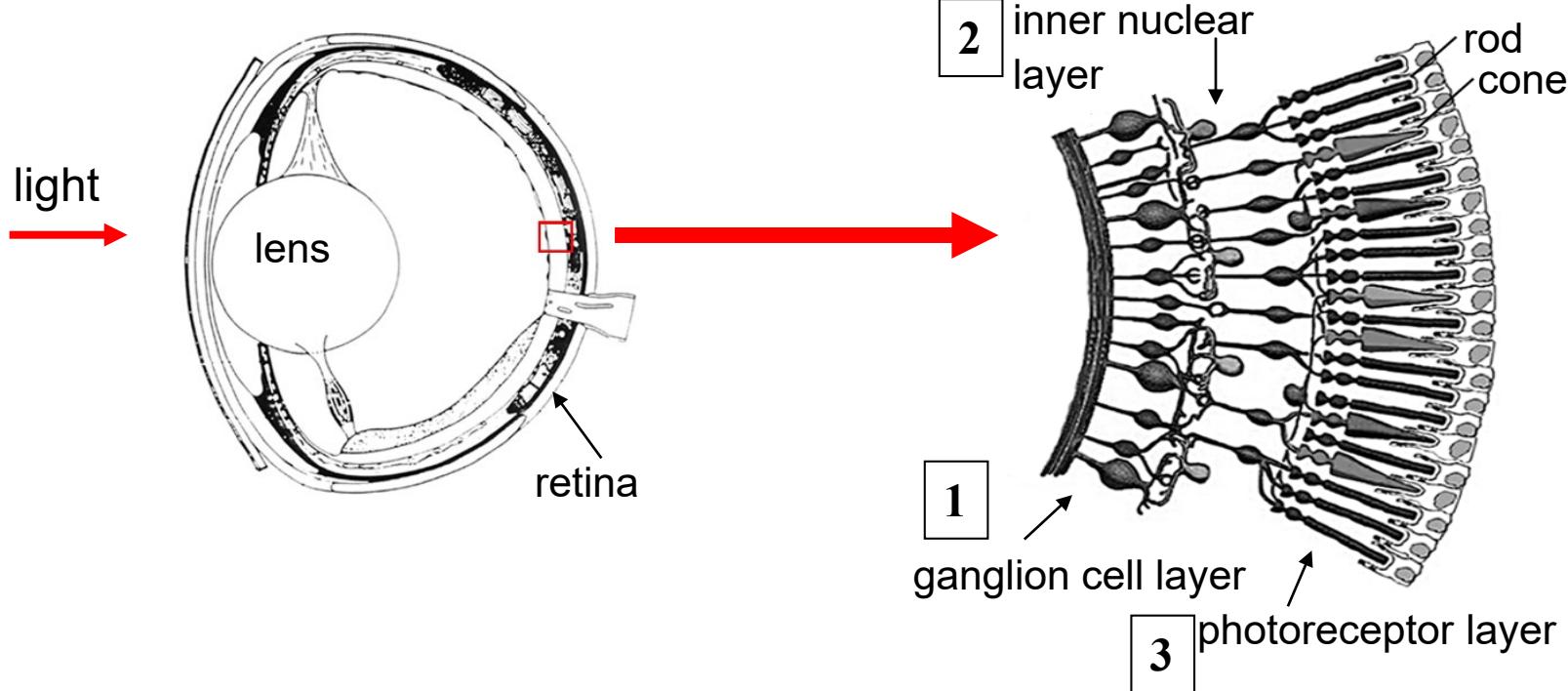
Lots of information about the significance of RGC numbers and densities

More information about the numbers and dimensions of photoreceptors

But hopefully some of you have been wondering “How?”

THIS VIDEO: The secrets behind analysing retinal specialisations

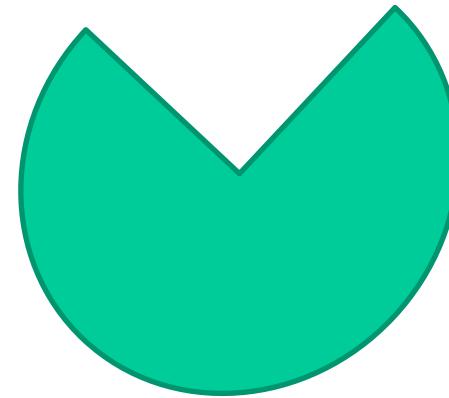
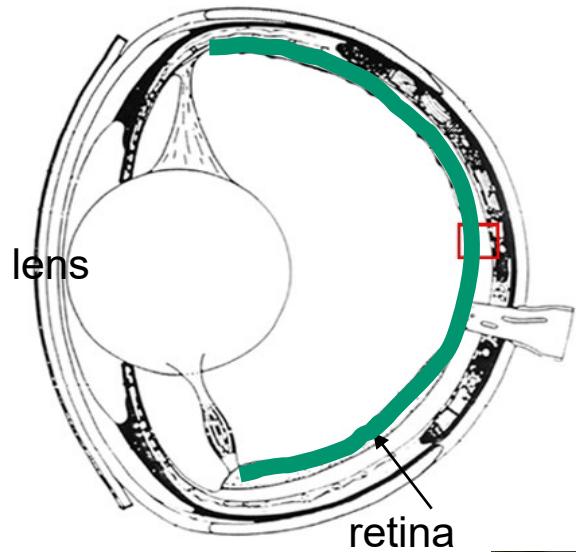
Vertebrate retina: 3 layers



1. ganglion cell layer: information conveyed to brain via optic nerve
2. inner nuclear layer: signals relayed to ganglion cell layer
3. photoreceptor layer: visual image transformed into electrical signals (neural image)

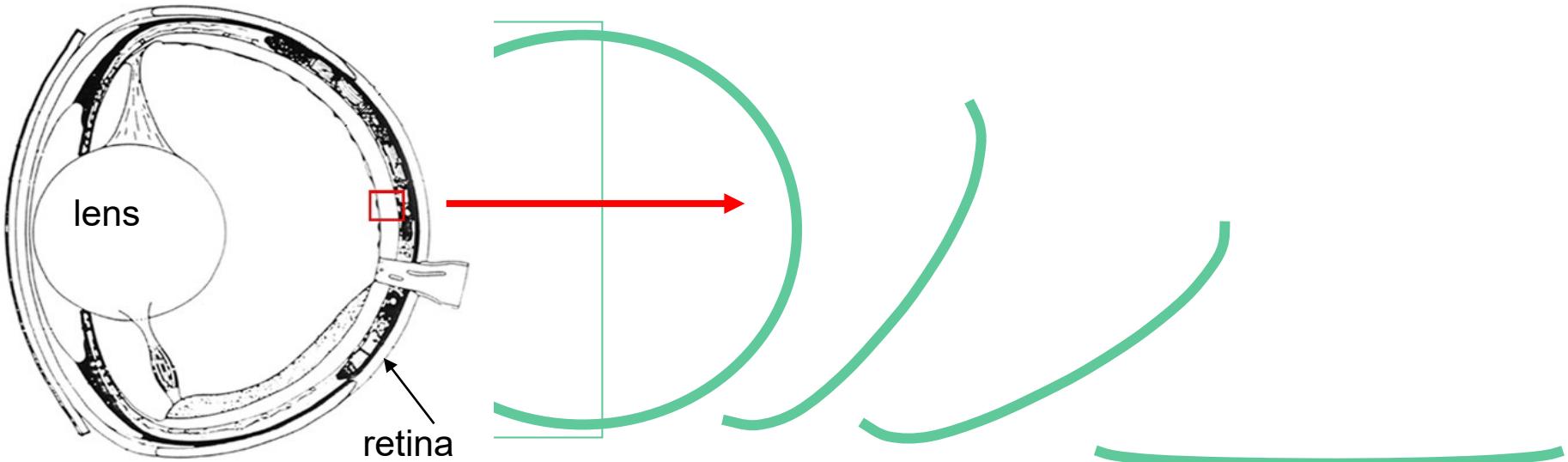
Cell distribution: retinal wholemounts

Toad and fish pracs



Retinal ganglion cell distribution

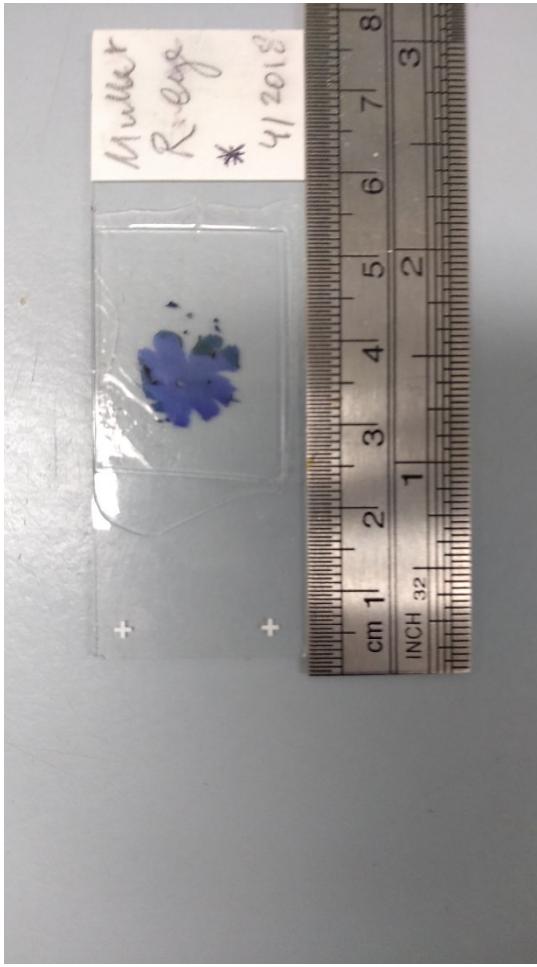
Toad pracs



retinal wholemount

- type of regional specialisations
- part of environment sampled accurately

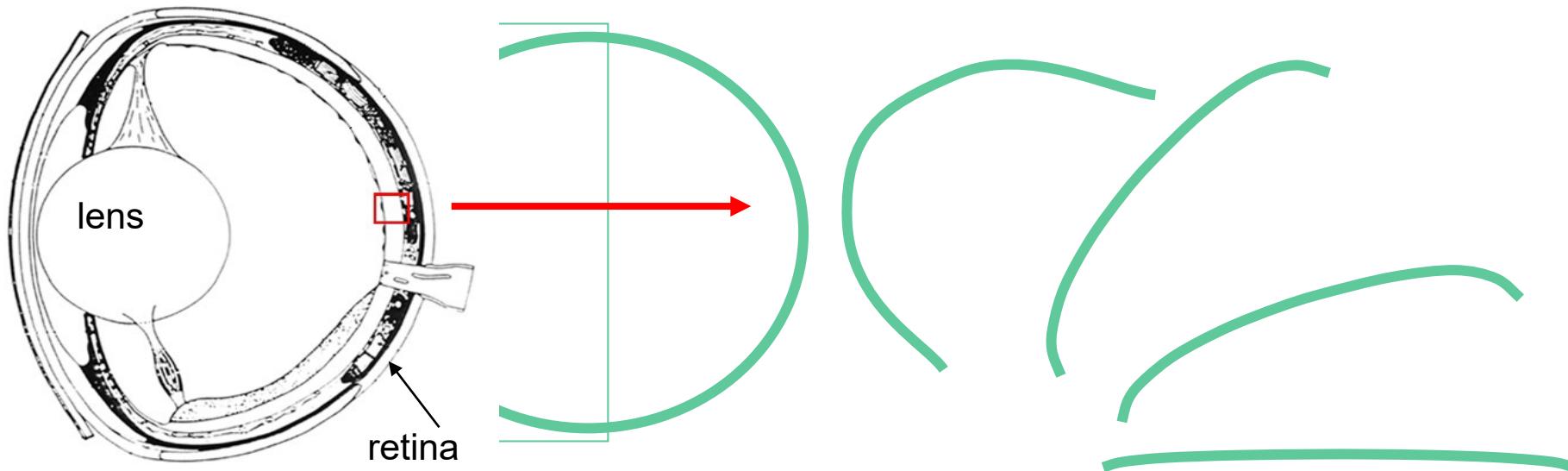
Microscope slide





Photoreceptor cell distribution

Fish and Bird Pracs

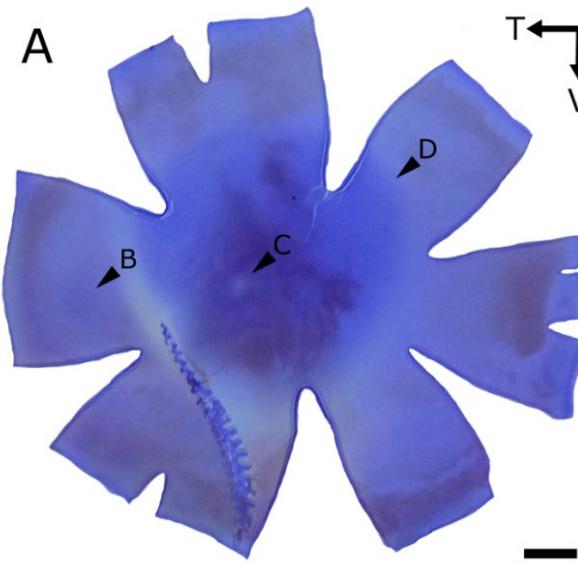


retinal wholemount

- type of regional specialisations
- part of environment sampled accurately

Microscope slide

Some other techniques for studying retinal specialisations



VS

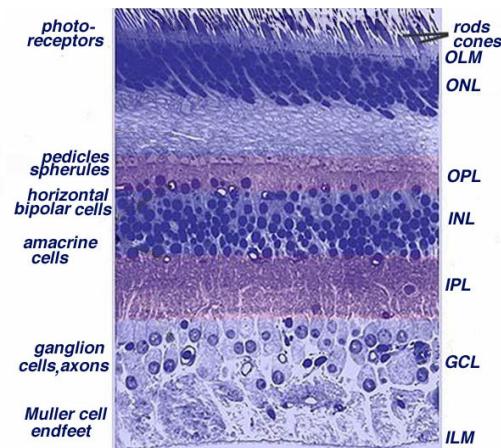


Fig. 3. Light micrograph of a vertical section through central human retina.

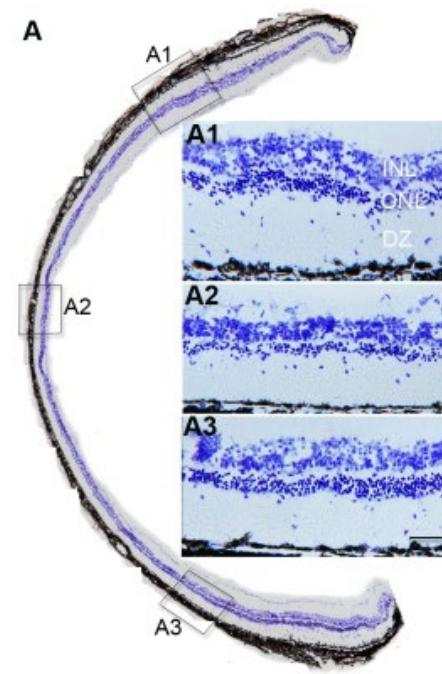
Wholemounts ☺

How do you get sections?

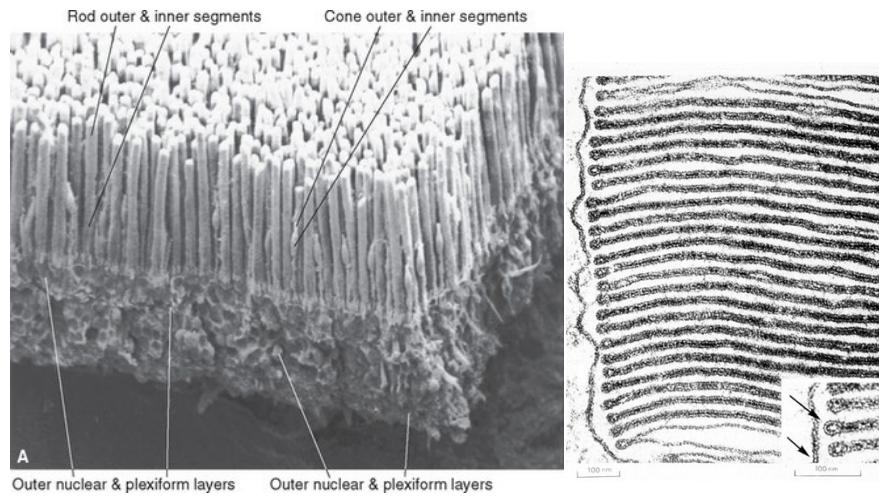
Cryostat



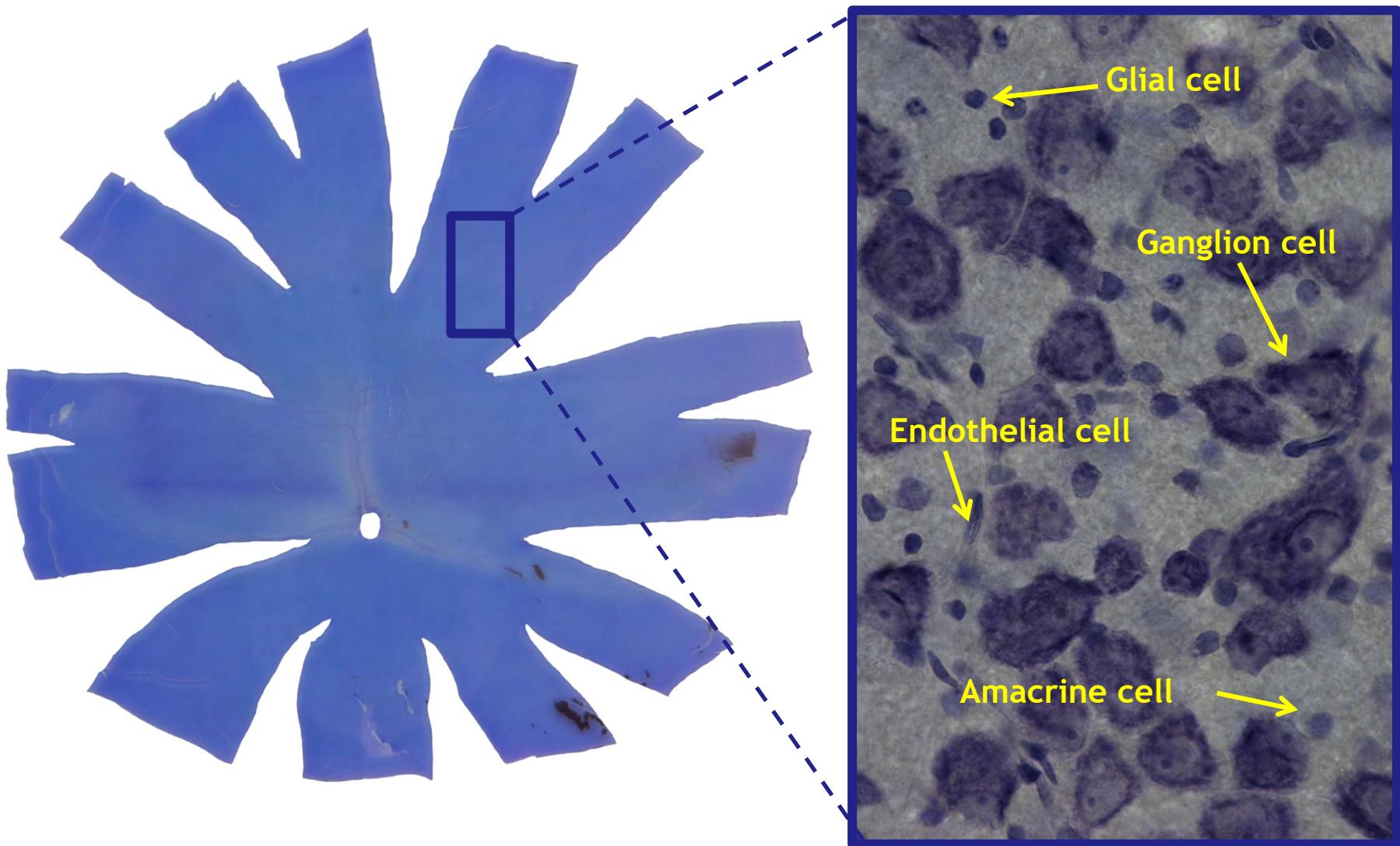
Light microscopy



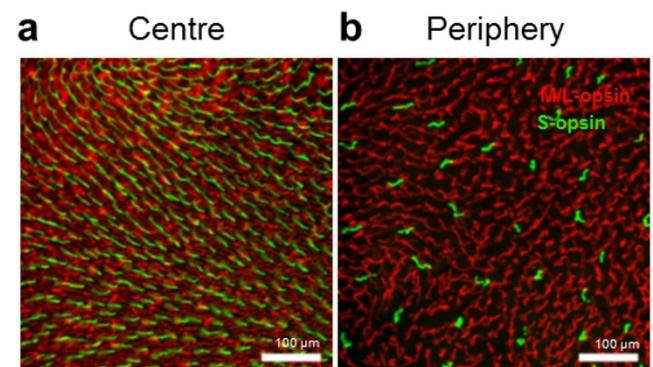
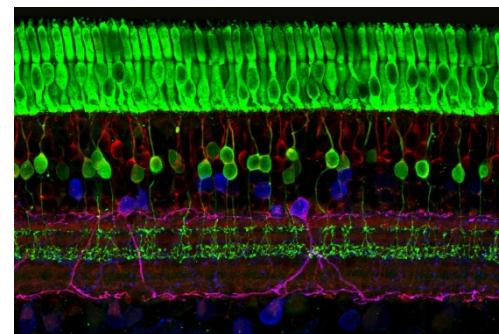
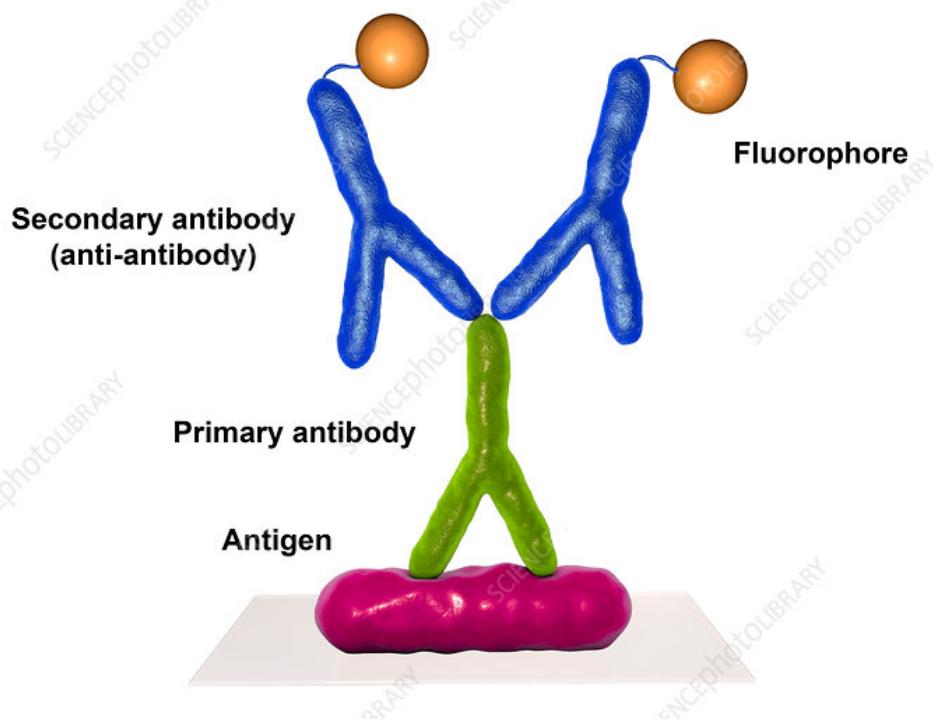
Electron microscopy



The retinal wholemount and retinal cell types



Immunohistochemistry



Neuronal tracing techniques

